CONTROL OF VIRUS DISEASE

The control of virus disease is essential in orchid growing. To achieve this it is necessary that the grower becomes aware of the seriousness of the disease, is aware of its modes of spread and adopts handling techniques that limit the possibility of its transfer.

Virus infection in orchids is virtually always due to one of two viruses: Cymbidium Mosaic Virus and/or Odontoglossom Ring Spot Virus. These viruses affect all genera with the signs of infection being more obvious in some and at certain stages in the growing cycle. Almost invariably virused plants result from the purchase of an infected plant, the division of a virused plant or the careless use of cutting instruments where infected sap is introduced to a previous clean plant.

When purchasing a plant, it is essential that you view it carefully, having familiarised yourself with the diagnostic signs of virus infection. Deal with reputable traders and if you see a suspicious mark ask their advice. Beware of back-bulbs especially if these do not have substantial leads as the signs will not be obvious. The older the plant the more likely it is to be virused, because it has been handled more. To the new grower the offer of a back-bulb or division from an untrained orchid grower is a common source for the introduction of infection.

Constantly view your collection critically and occasionally invite a fellow grower to look over your plants. They may see something you miss. Be aware when signs are likely to be most obvious, e.g. with the new growths in cymbidiums and during flowering with cattleyas. When a new plant is brought into a collection it may be prudent to quarantine it, although with virus disease this may involve a period of up to a year. If a virused plant is found it should be destroyed unless there is a very good reason for retaining it as the disease is incurable. Only with a valuable breeding plant or valuable unique clone is an attempt to rid the infection by meristem culture justified. Do not give it to another grower whoever they are as this only spreads the problem.

Since spread is almost always by direct contact and usually via cutting instruments, a safe technique for handling plants must be developed. The two most effective agents against virus are alkaline solutions and heat. Methylated spirits, hypochlorite, formalin etc may be used: however the best agent is trisodium orthophosphate marketed as Triclenium. This is readily obtainable from hardware stores, is inexpensive and relatively safe to use. Potassium hydroxide (Caustic Potash) and sodium hydroxide (Caustic Soda) are more effective but too dangerous and never forget that you are more valuable than any orchid. Triclenium is used at 10% or saturated solution and the cutting instrument should be soaked for 20 minutes. Heat is best applied via a propane burner and the cutting instrument should be heated to blue heat.

A satisfactory approach to control any spread via cutting instruments involves -

1. Use only long bladed knives not secateurs. Knives can be used to cut any part of the plant and can be readily flamed whereas secateurs cannot. Two carving knives will suffice so that one can be soaking while the other is being used.

2. After use -

(a) Pass the knife through a container of detergent to remove vegetable matter and compost which denatures the Triclenium, paying particular attention to the junction of handle and blade as this is the difficult area to flame.

(b) When clean transfer it to the Triclenium and shake the solution up onto the handle and leave for 20 minutes if possible.

(c) Prior to use, flame the blade to blue heat. This has a direct sterilising effect and also in drying the blade, the Triclenium becomes more concentrated.

Other potential vehicles for the spread of virus include -

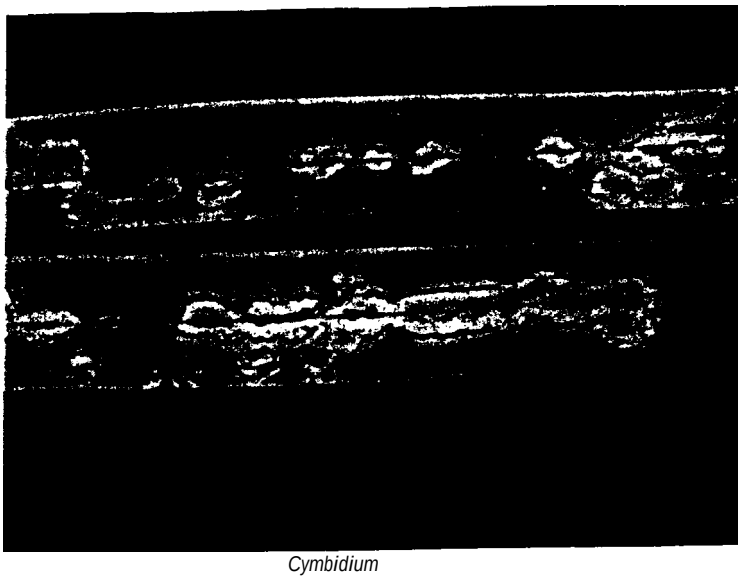
(a) Your hands. Hot soapy water provides the most feasible approach and regular washing while repotting is desirable.

(b) The potting area. Here a regular wash down with Triclenium should be given, say at the end of the day or when there is any suspicion that an infected plant may have been handled.

(c) Pots and potting compost. If these are reused care should be taken. Potting composts would be difficult to sterilise, however pots should be first washed in detergent and then soaked in Triclenium.

(d) Insects, whilst not proven to transfer infection should be eradicated at the first sign.

Virus infection can and must be controlled. Become aware of its diagnostic signs. Keep a constant vigil and practice techniques that eliminate or minimise its spread. You can control it in your collection and if all orchid growers can be encouraged to adopt such an approach, then we can take a step towards its eventual eradication.



Cymbidium